CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 97-025
NPDES NO. CA0005185

WASTE DISCHARGE REQUIREMENTS FOR:

MORTON INTERNATIONAL, INC.
MORTON SALT DIVISION
NEWARK FACILITY
NEWARK, ALAMEDA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region, (hereinafter called the Board) finds that:

1. Morton International, Inc., Morton Salt Division, hereinafter called the discharger, owns and operates a facility located at 7380 Morton Avenue in Newark for the manufacture of salt.

2. By application dated February 15, 1995, the discharger has applied for reissuance of waste discharge requirements and a permit to discharge waste under the National Pollutant Discharge Elimination System (NPDES) permit No. CA0005185.

FACILITY DESCRIPTION

3. The discharger uses solar evaporated salt ($NaCl^-$) to produce a variety of salt products.

4. The USEPA and the Board have classified this discharger as a minor discharger.

PURPOSE OF ORDER

5. This NPDES permit regulates the discharge of effluent from the discharger's cooling pond, water from well sand separator and the discharges of all storm water associated with industrial activity from the plant to Plummer Creek Slough which is tributary to Southern San Francisco Bay, a water of the United States.

DISCHARGE DESCRIPTION

6. The discharger intermittently discharges an average of 0.075 million gallons per day (mgd) of wastewater into a drainage ditch which runs approximately one mile before draining into Alameda County Flood Control line F-1, which is tributary to Plummer Creek Slough and Southern San Francisco Bay.

7. The wastes consist of overflow of cooling water pond where condensate and cooling water from multiple effect evaporators are pumped for storage and reuse, facility storm water runoff and residual water from well sand separator.

8. Wastewater treatment consists of pH reduction by carbon dioxide addition and aeration. Algae growth in the cooling water pond can cause the pH to exceed the 8.5 pH unit effluent limit and high level of suspended solids. The general quality of this discharge based on data collected between 1/90 and 9/96 is as follows:

Constituent	Average	Minimum	Maximum
TSS - 30 Day Average (kg/day)	8.63	0.38	31.03
TSS - 30 Day Average (mg/l)	21.55	4.0	68.6
TSS - Maximum Daily (kg/day)	21.81	0.59	289.2
TSS - Maximum Daily (mg/l)	37.08	5.6	213
Settleable Matter 30 Day Average (ml/l-hr)	0.04	0	0.16
Settleable Matter - Instaneous Max. (ml/l-hr)	0.08	0	1.20
Oil & Grease - 30 Day Average (kg/day)	0.39	0	3.79
Oil & Grease - 30 Day Average (mg/l)	1.00	0	3.6
Oil & Grease - Maximum Daily (kg/day)	0.72	0	6.04
Oil & Grease - Maximum Daily (mg/l)	1.25	0	4.2
pH (pH Units)	7.99	7.40	8.67
Toxicity (% Survival)	98.2	73	100
Flow (mgd)	0.07	0.0029	0.17
Temperature (^{O}F)	68.63	53	82

9. Currently, there is no Board approved Algaecide in production. All the Algaecides on the market contain copper or other priority pollutants. The discharge of which is prohibited.

10. Due to the difficulties in obtaining algaecides, the discharger experimented with various algae removal methods such as algae harvesting, biological treatment with species of algae consuming water fleas, and reduce exposure to sun light. The experiments concluded that none of the above methods are consistently reliable in reducing the concentration of total suspended solids.

11. From the above finding, it is concluded that good cause exists to modify suspended solids effluent limitations due to events beyond the permittee's control and for which there is no reasonably available remedy. Under this condition, Section 402(o)(2)(c) of the Clean Water Act allows the effluent limitation to be relaxed.

APPLICABLE PLANS, POLICIES AND REGULATIONS

12. The discharge is presently governed by Waste Discharge Requirement, Order No. 90-108 which allows discharge into a dead-end slough.

13. This discharge is considered a non-process wastewater discharge that does not contain characteristics of concern to beneficial uses as defined in the Basin Plan. The Basin Plan prohibition against discharges containing "characteristics of concern to beneficial uses" into dead-end sloughs is therefore not applicable.

14. The Board adopted a Water Quality Control Plan for the San Francisco Bay Region (Basin Plan) in June 21, 1995, and the State Water Resources Control Board (State Board) approved it on July 20, 1995. The Office of Administrative Law (OAL) approved it on November 13, 1995. The Basin Plan identifies beneficial uses and water quality objectives for surface and ground waters in the region, as well as discharge prohibitions and certain effluent limitations intended to protect beneficial uses.

15. Effluent limitations and toxic effluent standards established pursuant to Section 208(b), 301, 304, and 307 of the Federal Water Pollution Control Act and amendments thereto are applicable to the discharge.

16. Pursuant to 40 CFR 122.44, "Establishing Limitations, Standards, and Other Permit Conditions," NPDES permits should also include toxic pollutant limitations if the Discharger uses or manufactures a toxic pollutant as an intermediate or final product or byproduct. This permit may be modified prior to the expiration date, pursuant to 40 CFR 122.62 and 124.5, to include effluent limitations for toxic constituents determined to be present in significant amounts in the discharge through a more comprehensive monitoring program included as apart of this Order.

17. This permit contains relaxed limits for total suspended solids. This is allowed under the conditions specified in Section 402(o)(2)(c) of the Clean Water Act.

BENEFICIAL USES

18. The beneficial uses of Southern San Francisco Bay and contiguous water bodies are:

    a. Ocean, Commercial and Sport Fishing
    b. Estuarine Habitat
    c. Industrial Service Supply
    d. Fish Migration
    e. Navigation
    f. Preservation of Rare and Endangered Species
    g. Water Contact Recreation
    h. Noncontact Water Recreation
    i. Shellfish harvesting
    j. Potential for Fish Spawning
    k. Wildlife Habitat

BASIS FOR REQUIREMENTS

19. The establishment of many of the chemical specific limitations depends upon the salinity characteristics of the receiving waters. Data contained in Annual Report for San Francisco Estuary Regional Monitoring Program for Trace Substances (1993 and 1994) for station BA20 and BA30 show that the salinity of the receiving water is above 5 parts per thousand greater than ninety-five percent of the time. Based on these data, the salinity in the vicinity of the discharge is brackish and marine in character.

20. The Basin Plan establishes a narrative objective for acute and chronic toxicity in the Bay. In part, it states that "All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. Detrimental responses include but are not limited to, decreased growth rate and decreased reproductive success of resident or indicator species...."

21. Because of the nature of the waste and the discharge location, this discharge poses a reasonable potential for causing exceedance of the acute toxicity objective. This Order specifies acute toxicity effluent limits for this waste stream.

CEQA AND PUBLIC NOTICE OF ACTION

22. The issuance of waste discharge requirements for this discharge is exempt from the provisions of Chapter 3 (commencing with Section 21000 of Division 13) of the Public Resources Code (CEQA) pursuant to Section 13389 of the California Water Code.

23. The Board has notified the discharger and interested agencies and persons of its intent to reissue waste discharge requirements for the discharge and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.

24. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED THAT Morton Salt in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, and the provisions of the Clean Water Act and regulations and guidelines adopted thereunder, shall comply with the following:

A. Discharge Prohibitions

1. Biocides of a persistent or cumulative form which have particular characteristics of concern to beneficial uses when applied where direct or indirect discharge to water is threatened except where net environmental benefit can be demonstrated to the satisfaction of the Regional Board. A management plan for the use and control of biocides in these cases must be approved by the Regional Board.

2. Floating oil or other floating materials from any activity in quantities sufficient to cause deleterious bottom deposits, turbidity or discoloration in surface waters.

3. Direct discharge of domestic sanitary waste to the cooling pond or to surface waters of the state is prohibited.

4. Discharges of concentrated brine to surface waters of the state is prohibited.

5. Discharges of wastewaters, materials, or other wastes other than storm water which are not otherwise authorized by this Order, to a storm drain system or waters of the State are prohibited.

B. Effluent Limitations

1. Effluent discharge shall not exceed the following limits:

Constituents	Units	30-day Average	Weekly Average	Maximum Daily
TSS	mg/l	41		64
TSS	kg/day	38		66
BOD	mg/l	30	45	
Settleable Matter	ml/l-hr	0.1	0.2	
Oil and Grease	mg/l	5		8
Oil and Grease	kg/day	4.5		7.7

2. The pH of the discharge shall not exceed 9.0 nor be less than 6.5.

3. In any representative set of samples, the waste as discharged shall meet the following limit of quality:

TOXICITY: The survival of stickleback and rainbow trout in a 96 hour static renewal bioassay of the effluent shall be a 3-sample medium value of not less than 90 percent survival, and a single sample maximum value of not less than 70 percent survival. The 3-sample median effluent limitation is defined as follows:

3 sample median: If one of the past two or fewer samples shows less than 90 percent survival, then survival of less than 90 percent on the next sample represents a violation of the effluent limitation.

4. The maximum temperature of the discharge shall not exceed the ambient receiving water temperature by more than 20 ^{O}F nor shall it exceed 90 ^{O}F.

C. Receiving Water Limitations

1. The discharge of waste shall not cause the following conditions to exist in waters of the State at any place:

   a. Floating, suspended, or deposited microscopic particulate matter or foam;

   b. Bottom deposits or aquatic growths;

   c. Alteration of temperature, turbidity, or apparent color beyond present natural background levels;

   d. Visible, floating, suspended, or deposited oil or other products of petroleum origin;

   e. Toxic or other deleterious substances to be present in concentrations or quantities which will cause deleterious effects on aquatic biota, wildlife, or waterfowl, or which render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentration.

2. The discharge of waste shall not cause the following limits to be exceeded in waters of the State in any place within one foot of the water surface:

a.	Dissolved oxygen	5.0 mg/l minimum. Median of any three consecutive months shall not be less than 80% saturation. When natural factors cause lesser concentration(s) than those specified above, then this discharge shall not cause further reduction in the concentration of dissolved oxygen.
b.	pH	Variation from natural ambient pH by more than 0.5 pH unit.
c.	Un-ionized ammonia	0.025 mg/l as N annual median 0.4 mg/l as N maximum

3. The discharge shall not cause a violation of any applicable water quality standard for receiving waters adopted by the Board or the State Water Resources Control Board as required by the Clean Water Act and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the Clean Water Act, or amendments thereto, the Board will revise and modify this Order in accordance with such more stringent standards.

D. Provisions

1. **Storm Water Pollution Prevention Plan:** Morton Salt shall update and submit a Stormwater Pollution Prevention Plan (SWPPP) acceptable to the Executive Officer by May 1, 1997. The SWPPP shall comply with the requirements contained in the attached Standard provisions. Specifically, the SWPPP shall be updated to address all areas contributing storm water discharge from facilities owned and operated by Morton Salt. It shall include pollution prevention measures. The measures may first include a study to determine sources of contaminants, followed by increased frequency of sweeping, cleaning and/or erosion control measures for certain areas. The updated SWPPP shall be implemented by September 1, 1997.

   Henceforth, Morton Salt shall evaluate and update annually the SWPPP, or sooner if there is a change in the operation of the facility which may substantially affect the quality of the storm water discharged from the facility.

2. **Best Management Plan**: Discharger shall update and submit a Best Management Plan (BMP) acceptable to the Executive Officer by July 1, 1997. The updated BMP shall be implemented by October 15, 1997.

3. **Self-Monitoring Program**: Morton Salt shall conduct monitoring in accordance with the attached Self-Monitoring Program as adopted by the Board. The Self-Monitoring Program may be amended by the Executive Officer pursuant to 40 CFR 122.62, 122.63, and 124.5.

4. **Permit Reopener**: Pursuant to USEPA regulations 40 CFR 122.44, 122.62, and 124.5, the permit may be modified prior to the expiration date for reasons including:

   a. to include effluent limitations for toxic constituents determined to be present in significant amounts in the discharge through the monitoring program included as part of this Order.

5. **Signatory and Certification**: All applications, reports, or information submitted to the Regional Board shall be signed and certified pursuant to Environmental Protection Agency regulations (40 CFR 122.41K).

6. **Notification on Changes**: Pursuant to Environmental Protection Agency regulations [40 CFR 122.42(a)] the Discharger must notify the Regional Board as soon as it knows or has reason to believe (1) that they have begun or expect to begin use or manufacture of a pollutant not reported in the permit application, or (2) a discharge of a toxic pollutant.

7. **Standard Provisions**: This Order includes all items of the attached "Standard Provisions, and Reporting Requirements" dated August 1993.

8. **Rescission of Previous Orders**: The requirements prescribed by this Order supersede the requirements prescribed by Order 90-108 adopted on August 15, 1990. Order No. 90-108 is hereby rescinded.

9. **Permit Expiration:** This Order expires February 19, 2002. Morton Salt must file a report of waste discharge in accordance with Title 23, Chapter 3, Subchapter 9 of the California Administrative Code not later than 180 days in advance of such expiration date as application for issuance of new waste discharge requirements.

10. **Effective Date of Permit**: This Order shall serve as a National Pollutant Discharge Elimination System Permit pursuant to Section 402 of the Clean Water Act or amendments thereto, and shall become effective on the date of adoption provided the Regional Administrator, Environmental Protection Agency, has no objection. If the Regional Administrator objects to its issuance the permit shall not become effective until such objection is withdrawn.

11. Morton Salt shall comply with all sections of this Order immediately upon adoption, with the exception of the newly proposed monitoring requirements for pH and BOD. These requirements shall be adopted within 60 days of adoption of this Order to allow for purchase and installation of the necessary equipment.

I, Loretta K. Barsamian, Executive Officer do hereby certify the foregoing is a full, true and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region on February 19, 1997.

Loretta K. Barsamian
Executive Officer

Attachments:

Figure 1 - Facility Location
Figure 2 - Discharge Location
Figure 3 - Flow Diagram
Standard Provisions and Reporting Requirements, August 1993
Self Monitoring Program - Part A (8/93), and part B

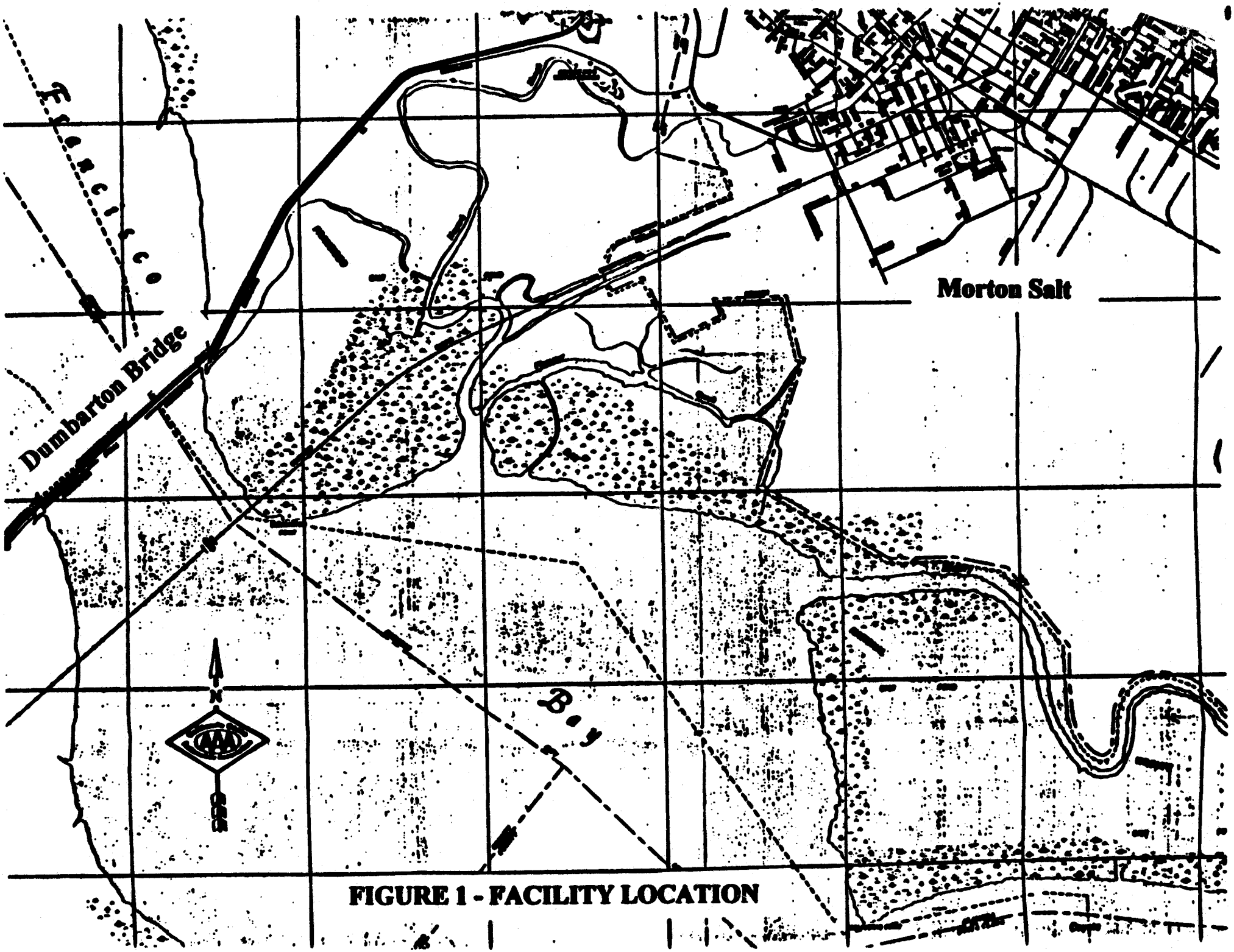


FIGURE 1 - FACILITY LOCATION

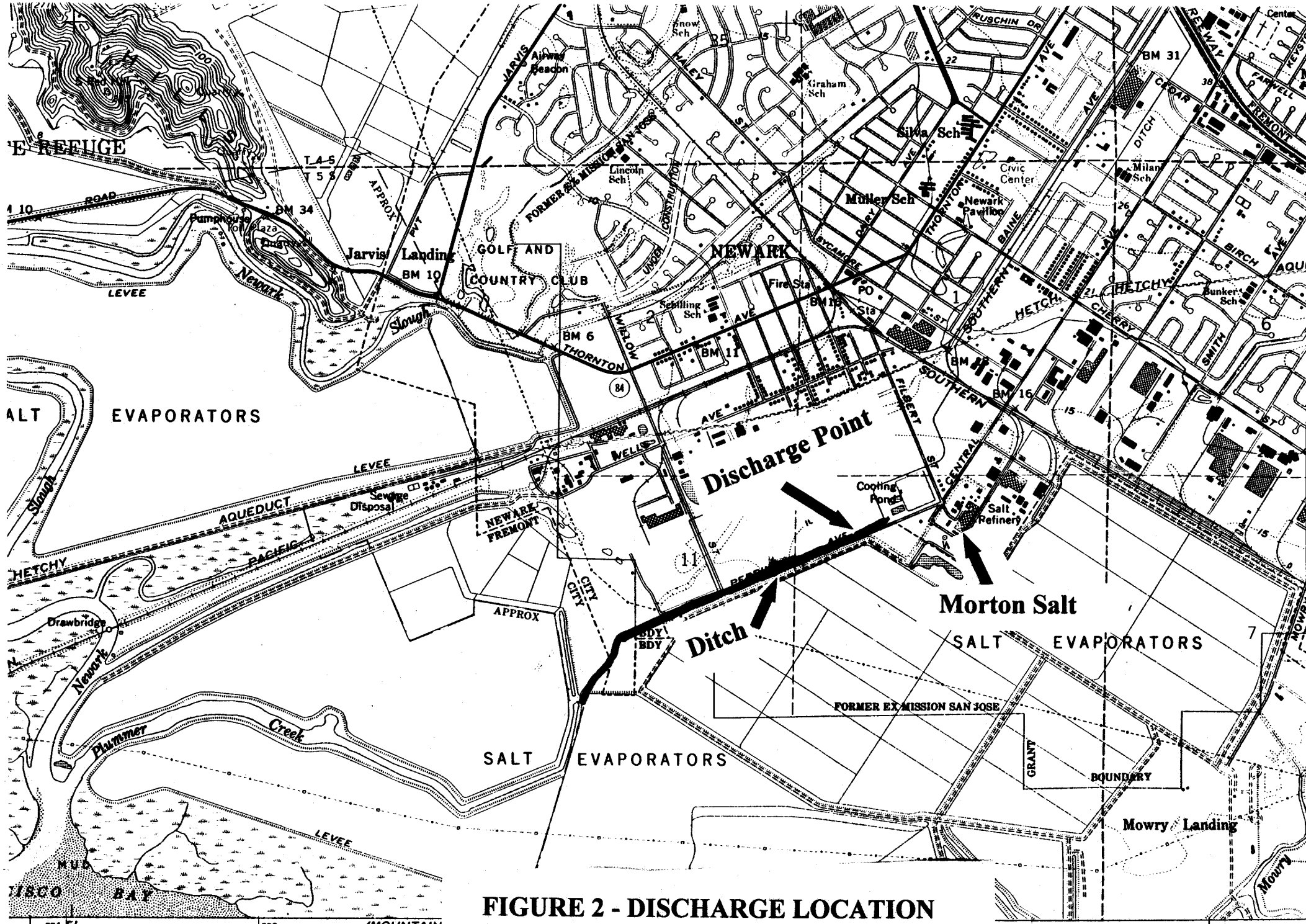
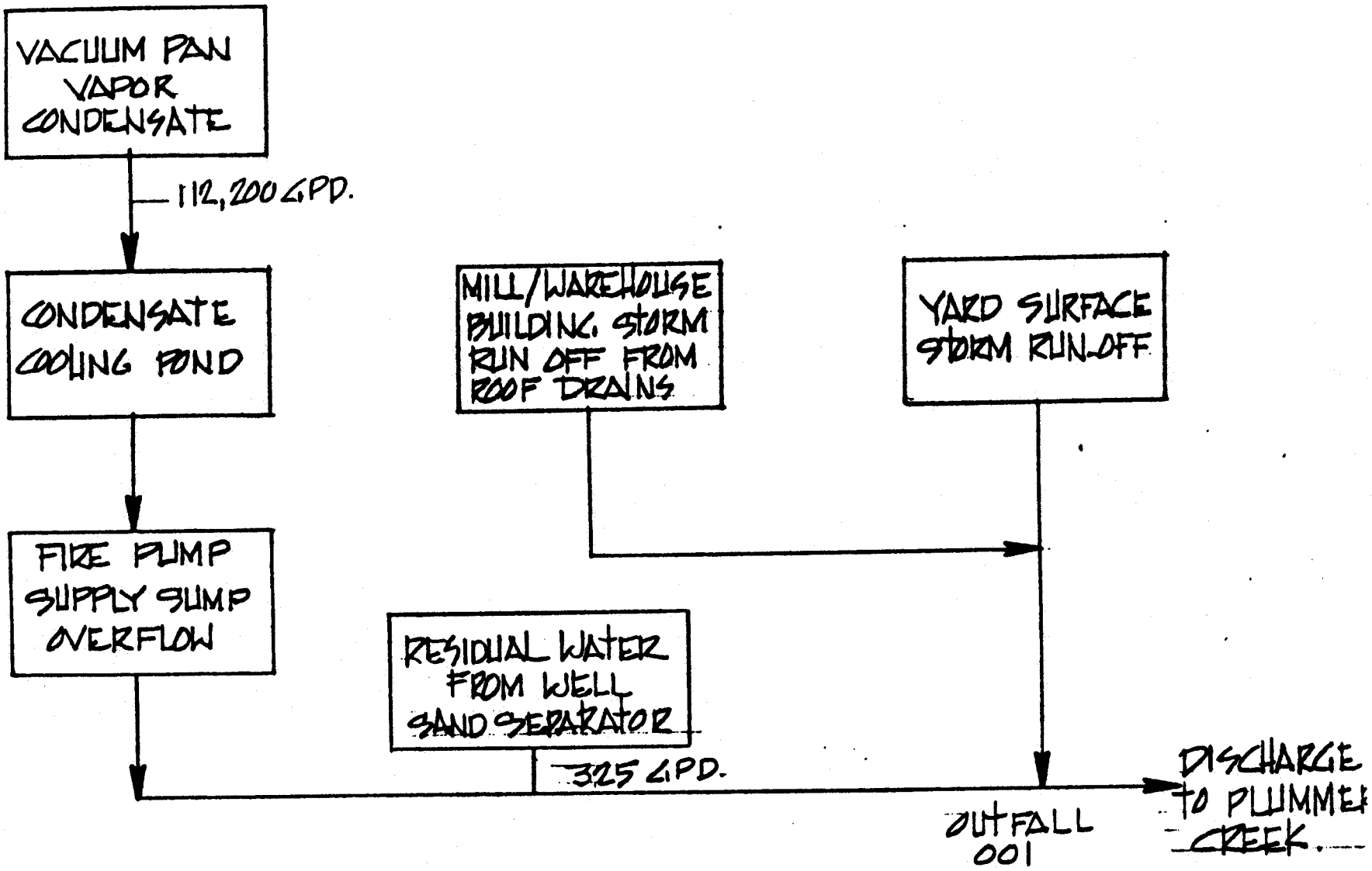


FIGURE 2 - DISCHARGE LOCATION

SCALE 1:24000

FIGURE 3 - FLOW DIAGRAM



CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM

FOR

MORTON INTERNATIONAL, INC.
NEWARK FACILITY
NEWARK, ALAMEDA COUNTY

NPDES NO. CA0005185
ORDER NO. 97-025

CONSISTS OF

PART A
DATED AUGUST 1993

AND

PART B
DATED FEBRUARY 19, 1997

PART B

I. DESCRIPTION OF SAMPLING STATIONS

A. EFFLUENT

Station	Description
E-001	At any point in the discharger's wastewater ditch between the point at which the wastewater leaves the discharger's property and the point at which all waste tributary to the ditch is present.

B. RECEIVING WATERS

Station	Description
C-1	The wastewater ditch below the discharge weir.

C. LAND OBSERVATIONS

Station	Description
L-1 thru L-1-'n'	Located along the perimeter levees of the two sludge ponds at equal distant intervals not to exceed 50 feet. (A sketch showing the locations of these stations shall accompany each report).

II. SCHEDULE OF SAMPLING AND ANALYSIS

The schedule of sampling and analysis is given in Table I (attached).

III. MODIFICATION OF PART A

Delete items C.2.a, D.1.e, D.1.f, D.5.b, E.3, E.5, and F.4.c.

IV. MISCELLANEOUS REPORTING

Instead of monthly reports as specified in E.4, self-monitoring reports shall be submitted quarterly in the format specified in Part A of the SMP.

I, Loretta K. Barsamian, Executive Officer, hereby certify that the foregoing Self-Monitoring Program:

1. Has been developed in accordance with the procedure set forth in this Regional Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in Regional Board Order No. 97-025.

2. Is effective on February 19, 1997.

3. May be reviewed and revised at any time subsequent to the effective date upon written notice from the Executive Officer or request from the discharger. Revisions will be ordered by the Executive Officer.

Loretta K. Barsamian
Executive Officer

Attachments:

Table I. Schedule for Sampling, Measurements, and Analysis

TABLE I

SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS

Sampling Station	E-001				C Station			All L Stations	
Type of Sample	G	C-24	Cont.	O	G	C-24	O	G	O
Flow Rate (mgd)		D							
BOD, 5 day, 20 ^{O}C		M							
Settleable Matter (ml/l-hr)	W								
Total Suspended Matter (mg/l & kg/day)		W							
Toxicity (% survival)		Q							
Ammonia Nitrogen (mg/l & kg/day)									
Turbidity (TU)	Q								
pH (pH Units)			Cont.						
Dissolved Oxygen (mg/l and % Saturation)									
Temperature (^{O}C)			Cont.						
Apparent color (Color Units)				2/W					
Sulfides (if DO ,5.0 mg/l) Total & Dissolved									
Cadmium (µg/l& kg/day)		2/Y							
Copper (µg/l & kg/day)		2/Y							
Lead (µg/l & kg/day)		2/Y							
Mercury (µg/l & kg/day)		2/Y							
Nickel (µg/l & kg/day)		2/Y							
Aluminum (µg/l & kg/day)		2/Y							
Arsenic (µg/l & kg/day)		2/Y							
Chromium (µg/l & kg/day)		2/Y							

Sampling Station	E-001				All C Stations			All L Stations	
Type of Sample	G	C-24	Cont.	O	G	C-24	O	G	O
Cyanide (µg/l & kg/day)		2/Y							
Silver (µg/l & kg/day)		2/Y							
Zinc (µg/l & kg/day)		2/Y							
Phenols (µg/l & kg/day)		2/Y							
All Applicable Standard Observations				M					M
Un-ionized Ammonia as N (mg/l)									

LEGEND FOR TABLE

TYPES OF SAMPLES

G = grab sample
C-24 = composite sample - 24 hour
Cont = continuous sampling
O = observation

TYPES OF STATIONS

I = intake and/or water supply stations
E = waste effluent stations
C = receiving water stations
P = treatment facilities perimeter stations
L = basin and/or pond levee stations

FREQUENCY OF SAMPLING

E = each occurrence
W = once each week
M = once each month
Y = once each year
2/W = 2 days per week
2/M = 2 days per month
2/Y = once in March and once in September
2W = every 2 weeks
3M = every 3 months
Cont = continuous
Q = quarterly, once in March, June, September and December